

**REMARKS**

Please reconsider the application in view of the above amendments and the following remarks. Applicant thanks the Examiner for carefully considering this application.

**Disposition of Claims**

Claims 1-12 are pending in this application. Claims 1 and 7 are independent. The remaining claims depend, directly or indirectly, from claims 1 and 7.

**Claims Amendments(s)**

Claims 1, 5-7, and 11-12 were amended by this reply to clarify the present invention recited. No new matter has been added by these amendments.

**Rejection(s) under 35 U.S.C. § 102**

Claims 1-4 and 7-10 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,849,581 issued to Thompson, et al. ("Thompson"). To the extent that this rejection still applies to the claims as amended, the rejection is respectfully traversed.

Thompson is generally directed to phosphate-free gelled hydrocarbon fluids composed of an organic fluid (as the base fluid), a long chain (i.e. fatty) carboxylic acid and one or more metal ions to form a coordination complex with the carboxylic acid thus forming a gel structure. Optional additives include surfactant compounds of a wide variety of commercially available surfactants capable of facilitating the interaction of the components of the gelled fluid (i.e. organic fluid, metal ions and carboxylic acid). (Col. 44, lines 26-30) Tables 32, 33, 34 and 35 provide a considerable list of commercially available surfactants that may be interchangeably used. The ability to break the gelled hydrocarbon fluid is achieved by the addition of calcined

magnesium or tetraethylenepentaamine, either of which chemically disrupts the formation of the coordination complexes between the fatty carboxylic acid and the metal ions to reduce the viscosity of the gelled hydrocarbon.

In contrast, claim 1 involves mixing a specifically formulated drilling fluid with a delayed phase changing agent in the form of a pill delivered to the drilling fluid, and claim 7 involves exposing a filtercake formed from a specifically formulated drilling fluid with a delayed phase changing agent in the form of a pill delivered to the filtercake. The mixture of the drilling fluid and the pill achieves a delayed phase change in the drilling fluid by changing the pH environment of the drilling fluid (i.e. a change in pH results in the conversion of the drilling fluid from invert emulsion to regular emulsion). By controlling the concentration of the delayed phase change agent in the pill and other factors associated with such a change, one can predetermine the time of the delay (i.e. the time it takes for the phase change to occur). This is particularly useful in the downhole environment where a delay is needed to pump the pill downhole to the desired location prior to the phase change taking place and subsequent clean-up of the well.

Nowhere in the specification does Thompson teach or suggest the methods as recited in claims 1 and 7. Rather, as noted above, Thompson is directed to a pre-gelled hydrocarbon fluid which is broken by the addition of calcined magnesium or tetraethylenepentaamine. Both of these two compounds will individually disrupt the gelled structure formed by the interaction of the fatty carboxylic acid and the metal ions present in the gelled hydrocarbon by reducing the viscosity of the gelled hydrocarbon. Thus, Thompson does not teach each and every limitation of claims 1 and 7 to support a rejection under 35 U.S.C. § 102. Thus, claims 1 and 7 are patentable for at least these reasons. Dependent claims 3-4 and 9-

10 are also patentable for at least the same reasons. Accordingly, withdrawal of the rejection is respectfully requested.

Claims 1, 3-5, 7, and 9-11 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,439,056 issued to Cowan ("Cowan"). To the extent that this rejection still applies to the claims as amended, the rejection is respectfully traversed.

Cowan generally directed to the solidification of drilling fluids as part of a cement. (See Col. 2, lines 30-46.) This is achieved in conventional drilling fluids (i.e., water based drilling fluids) or invert emulsion based fluids having a high water content. The fluids are solidified by the addition of coal slag to the drilling fluid, thus causing the drilling fluid to solidify. Coal slag is specifically defined in the Cowan as being the hydraulic refuse from either the carbonization of coal or the burning of coal. Thus, Cowan teaches the use of a wide variety of retarders that may be used interchangeably. Regardless of the retarder used, the end product of solidified drilling fluid is achieved.

In contrast, claim 1 involves mixing a specifically formulated drilling fluid with a delayed phase changing agent in the form of a pill delivered to the drilling fluid, and claim 7 involves exposing a filtercake formed from a specifically formulated drilling fluid with a delayed phase changing agent in the form of a pill delivered to the filtercake. The mixture of the drilling fluid and the pill achieves a delayed phase change in the drilling fluid by changing the pH environment of the drilling fluid (i.e. a change in pH results in the conversion of the drilling fluid from invert emulsion to regular emulsion). By controlling the concentration of the delayed phase change agent in the pill and other factors associated with such a change, one can predetermine the time of the delay (i.e. the time it takes for the phase change to occur). This is particularly useful in the downhole environment where a delay is needed to pump the pill

downhole to the desired location prior to the phase change taking place and subsequent clean-up of the well.

The teachings of Cowan produce an end result that is exactly the opposite from that of the claimed methods. As noted above, Cowan involves the solidification of drilling fluid, thereby making the drilling fluid a permanent element in the downhole environment. The methods of the present invention are designed to increase the ability to remove the drilling fluid or filter cake from the downhole environment during the clean-up process. This is achieved by changing the oil-wet nature of the fluid (i.e. invert emulsion phase) so that it becomes water-wet in a delayed manner.

As demonstrated, Cowan does not teach each and every limitation of claims 1 and 7 to support a rejection under 35 U.S.C. § 102. Thus, claims 1 and 7 are patentable for at least these reasons. Dependent claims 3-4 and 9-10 are also patentable for at least the same reasons. Accordingly, withdrawal of the rejection is respectfully requested

#### **Rejection(s) under 35 U.S.C. § 103**

Claims 6 and 12 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Thompson in view of U.S. Patent No. 6,325,149 issued to Dobson, et al. ("Dobson").

The arguments set forth with respect to Thompson above are reasserted with respect to claims 6 and 12. Dobson, which the examiner asserts as teaching the use of hydroxyethylcellulose as a viscosifier, does not provide what Thompson lacks, which respect to amended claims 1 and 7. Therefore, whether taken alone or in combination, Thompson and Dobson fail to teach, show, or suggest the present invention as recited in independent claims 1

and 7. Claims 6 and 12, which depend from claims 1 and 7, are patentable for at least the same reasons. Accordingly, withdrawal of the rejection is respectfully requested.

Claims 2, 6, 8, and 12 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Cowan in view of Dobson. The limitations of claims 2 and 8 have been incorporated into independent claims 1 and 7, and claims 2 and 8 have been cancelled by this reply. To the extent that this rejection applies to the claims as amended, the rejection is respectfully traversed.

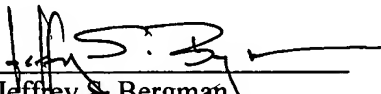
The arguments set forth with respect to Cowan above are reasserted with respect to claims 1, 6-7, and 12. Dobson, which the examiner asserts as teaching the delivery of a viscosifier in pill form and the use of hydroxyethylcellulose as a viscosifier, does not provide what Cowan lacks, which respect to amended claims 1 and 7. Therefore, whether taken alone or in combination, Cowan and Dobson fail to teach, show, or suggest the present invention as recited in independent claims 1 and 7. Claims 6 and 12, which depend from claims 1 and 7, are patentable for at least the same reasons. Accordingly, withdrawal of the rejection is respectfully requested.

**Conclusion**

Applicant believes this reply is fully responsive to all outstanding issues and places this application in condition for allowance. If this belief is incorrect, or other issues arise, the Examiner is encouraged to contact the undersigned or his associates at the telephone number listed below. Please apply any charges not covered, or any credits, to Deposit Account 50-0591 (Reference Number 05542/072002).

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Respectfully submitted,

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Attachments